Observations of the Solar Eclipse of 1900 *May* 28, *made at the Royal Observatory, Greenwich.*

(*Communicated by the Astronomer-Royal.*)

Owing to clouds the first contact could not be observed. There were, however, frequent clear intervals during the eclipse, and observations of limbs and cusps in Azimuth and Zenith Distance were made with the New Altazimuth (1) in Azimuth 70° West, (2) in the Prime Vertical, as follows :—

Azimuth 70° *W.*

Day.	Mean Solar Time.	Object.	Observed Az. or Z.D.	Secs. of Tab. A.Z. or Z.D.	Error of Tab. Az. or Z.D.	Observer.
	h m s		° ′ ″	″	″	
May 28	3 9 20·64	N. Cusp Azimuth	Az. 69 51 24·87	Az. 24·63	−0·24	HF.
	3 9 53 53	N. Cusp Z.D.	Z.D. 47 50 18·95	Z.D. 18·73	−0·22	,,
	3 11 12·63	S. Cusp Azimuth	Az. 69 50 48·28	Az. 48·29	+0·01	,,
	3 11 46·08	S. Cusp Z.D.	Z.D. 48 15 53·18	Z.D. 55·48	+2·30	,,
	3 12 42·06	⊙ Second Limb	Az. 69 59 19·23	Az. 16·48	−2·75	,,

Prime Vertical.

Day.	Mean Solar Time.	Object.	Observed Az. or Z.D.	Secs. of Tab. A.Z. or Z.D.	Error of Tab. Az. or Z.D.	Observer.
	h m s		° ′ ″	″	″	
May 28	4 42 28·93	⊙ First Limb	Az. 89 59 32·60	Az. 30·17	−2·43	H.F.
	4 43 37·57	⊙ Lower Limb	Z.D. 62 18 33 09	Z.D. 33·49	+0·40	,,
	4 44 38·87	☽ First Limb	Az. 89 57 8·06	Az. 6·63	−1·43	,,
	4 45 7·78	N. Cusp Azimuth	Az. 90 1 46·21	Az. 40·44	−5 77	,,
	4 45 48·72	S. Cusp Z.D.	Z.D. 62 27 55·02	Z.D. 50·02	−5·00	,,
	4 46 11·83	S. Cusp Azimuth	Az. 90 8 7·46	Az. 5·76	−1·70	,,

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The semi-diameters employed are deduced from the following mean values :—

(1) For the Sun from Auwers' value $16' \, 1''.18$ deduced from Greenwich meridian observations.

(2) For the Moon from L. Struve's value $15' \, 32''.65$ deduced from occultations during lunar eclipses.

Six photographs of the eclipse were obtained with the Dallmeyer photo-heliograph, the times of exposure being automatically recorded on a chronograph.

The following observations of the last contact were obtained :—

Phenomenon.	Telescope.	Aperture.	Power.	Mean Solar Time.	Observer.	Time from *Naut. Almanac.*
				d h m s		h m
Last contact	28-inch Equat.	20 inches	670	May 28 4 57 25·91	L.	4 57·5
,,	Old Altazimuth	4 inches	100	4 57 22·23	H.	
,,	Sheepshanks Equat.	6·7 inches	120	4 57 25·09	B.	
,,	Finder of Astrog. Equat.	2½ inches	12	4 57 21·2	W.	

The initials L., H., B., HF., W., are those of Mr. Lewis, Mr. Hollis, Mr. Bryant, Mr. Furner, and Mr. Witchell respectively.

Royal Observatory, Greenwich :
1901 *January* 11.

1901MNRAS..61..161.

Light Curve of S Aræ (*Chandler* 6429).

By Alex. W. Roberts, D.Sc.

One of the most remarkable short-period variables in the southern hemisphere is the star

C.P.D. −49°, 10361,

recently discovered by Mr. Innes.

As soon after its discovery as possible, regular observations of it were begun at Lovedale with the 3¼-inch telescope. The earlier observations were made near the star's setting, and accordingly only isolated observations could be secured. These yielded apparently a period of a little over seven days.

When morning observations were possible, more continuous observations were got, and these indicated that the short period determined at the close of 1899 was in error.

A reduction of all the 1900 observations, over 200 in number, yields a period of

$$10^{h}\ 50^{m}\ 45^{s}.$$

With this period the observations made were grouped in twenty sets.

The following table gives the average magnitude of each set; also the magnitudes indicated by a mean continuous curve drawn through the observed places.

This mean curve is shown in Plate 6. The residuals between the observed and mean places are given in column 5, and the number of observations in each set in column 6.

The average departure of a single set of observations from the mean value is $0^{m}{\cdot}033$.

No.	Date G.M.T.				Observed Mag.	Mean Mag.	R.	No. of Obs.
		d	h	m	m	m	m	
1	1900 Jan.	1	0	44	10·37	10·39	−0·02	9
2		1	2	3	10·59	10·55	+0·04	11
3		1	2	47	10·63	10·64	−0·01	17
4		1	3	48	10·76	10·73	+0·03	15
5		1	4	33	10·73	10·79	−0·06	12
6		1	5	44	10·84	10·83	+0·01	7
7		1	6	34	10·74	10·77	−0·03	18
8		1	7	23	10·67	10·66	+0·01	11
9		1	7	50	10·50	10·51	−0·01	15
10		1	8	6	10·31	10·30	+0·01	10
11		1	8	13	10·08	10·10	−0·02	13
12		1	8	27	9·80	9·85	−0·05	15
13		1	8	44	9·66	9·57	+0·09	9